NATIONAL INSTITUTES OF HEALTH
CLINICAL CENTER
NURSING and PATIENT CARE SERVICES

Standard of Practice: Medication Administration

Essential Information

1. **Patient Identification** – for patient safety and to accurately identify the "*right patient*," the nurse compares the patient identification band against hospital records and/or hospital-generated labels for patient's first & last name and date of birth. Alternatively, if a patient does not have an identification band, the nurse will ask a patient or parent/guardian to state the patient's first & last name and date of birth.
2. **Two (2) independent checks of a high alert drug is defined as 2 licensed health care professionals who each separately:**
   a. Compare the nurse **process** of preparing a drug product for administration (e.g., IV admixtures, injections, etc.) against the medical order for the right patient, drug, concentration, dose, administration route, diluent and volume, if appropriate, date and time of administration, and product expiration dating.
   b. Compare all **drug product labels** (CC-generated drug product label and manufacturer's drug product label, if present) against the medical order for the right patient, drug, dose, concentration, route, date and time of administration, and product expiration dating.
   c. Compare the **infusion pump settings** (which may include the volume to be infused, the drug, concentration, basal rate, bolus dose, lockout intervals, dose limits, and range settings) against the medical order.
   d. Review the **ordered route of infusion** and check the line attachment by tracing from the drug product along the administration set to the site of infusion.
   e. Carry out any required **drug calculation** and compare it against the medical order.
3. Oral liquids that cannot be measured and administered in a medication cup are measured and administered using an oral syringe.
4. Administration sets with free-flow protection are used with all continuous IV infusions.
5. Generally, a Clinical Center-approved infusion device is used with continuous IV infusions.
6. Medication is not left at the bedside except as outlined in MAS Policy M95-4: Medication Self-Administration."
7. Medications brought from home are handled in accordance with:
   a. MAS M94-15: Policy and Procedure for Patient Medications Brought into the Clinical Center upon Admission
   b. MAS M87-6: Policy on Use of Investigational Drugs (FDA-approved IND) Brought into the Clinical Center by Patients for Therapeutic Use
   c. NPCS PRO: Handling of Controlled Substances
8. Suspected adverse drug reactions are reported in accordance with MAS M80-4: Suspected Adverse Drug Reaction Reporting.

I. **ASSESSMENT**

   A. Within 8 hours of inpatient admission, on initial outpatient encounter, and all subsequent outpatient treatment encounters, a nurse assesses with the patient/family:
      1. All medications currently prescribed (including date/time last taken, if appropriate), medications that may be on hold, and medications brought from home.
      2. Herbals and other alternative agents
      3. Allergies to food, drugs, animals, and other products
      4. Food or drug contraindications relative to clinical trial protocol

B. Prior to the administration of any drug, a nurse:
   1. Reviews informed consent, if applicable
   2. Performs a relevant physical assessment and reviews relevant laboratory data, if applicable.
   3. Assesses patient's known allergies against the ordered medication.
   4. Confirms if drug is to be administered by a nurse, or by the patient, their parent/guardian or another caregiver with a nurse's supervision.
   5. Assesses the 5 rights of medication administration against the medical order:
      a. Right Patient
      b. Right Drug
      c. Right Dose
      d. Right Route
      e. Right Time
   6. Evaluates whether a drug product can be administered within its labeled expiration date/time (Appendix A).
   7. Reviews medical orders for treatment of potential extravasations and adverse drug reactions, if applicable.

C. **High-Alert Drugs**
   1. The following drug products are categorized as "high-alert" drugs:
      a. Insulin products (Intravenous (IV) infusions, IV push, and subcutaneous routes of administration)
      b. Hypertonic sodium chloride solutions (concentrations greater than 0.9% sodium chloride)
      c. Controlled substance infusions
      d. Concentrated or undiluted electrolytes
      e. Anticoagulant therapy (administered by IV routes)
      f. Cytotoxic agents
      g. Neuromuscular blockers
   2. As described above, two independent checks for the right patient, drug preparation process, drug product labels, infusion pump settings, ordered route of infusion, and applicable drug calculations are performed prior to the administration of a high-alert drug and with:
      a. A change in caregiver
      b. Each bag change
      c. A change in pump settings
   3. The hourly infusion rate of the combined total of all intravenous potassium-containing solutions will not exceed rates in accordance with MAS M92-8 Intravenous Potassium Chloride Infusions [http://push.cc.nih.gov/policies/PDF/M92-8.pdf].

II. **INTERVENTION**

A. When a drug is administered that has a potential for an anaphylactic reaction, emergency supplies and relevant equipment are available on the patient care unit:
   1. compatible flush solutions
   2. 0.9% sodium chloride flush solution and administration set
   3. oxygen
   4. suction
   5. vital sign monitor
   6. anaphylaxis treatment medications

B. Labeling medications

1. Parenteral drug products prepared by a nurse for administration are subsequently labeled with a fully completed Clinical Center approved "Medication Added" label containing the patient's name and date of birth, date/time of preparation, initials of the nurse who prepared the admixture, as well as the drug name and drug dose added to the parenteral solution. An exception to this may occur in a life-threatening situation when labeling of a drug product may be abbreviated and then updated when the patient is stabilized.
2. When a high-alert drug is prepared for administration by a nurse, the initials of both licensed health care professionals participating in the independent check process are recorded on the "Medication Added" label.
3. Transdermal medication patches are labeled with the date and time they were placed on a patient.

C. A patient receiving a commercially manufactured vaccine immunization is provided a Vaccine Information Statement.
D. Pass medications
   1. Prior to going on pass, a nurse reviews the current pass medication list with the patient.
   2. On return from pass, a nurse determines with the patient/family if scheduled medications were taken as prescribed and if any adverse effects were experienced.
E. At the time a patient is discharged from the Clinical Center, all medications brought from home are returned to the patient. Medications not returned to a patient at discharge are destroyed by discarding in a hopper, or in accordance with the POL: Handling of Controlled Substances, as applicable.
F. Patient/Family Education is provided by a nurse or a pharmacist and may include:
   1. Nname, dosage, and frequency of administration
   2. Route of administration
   3. Drugs and foods to avoid
   4. Common side effects to expect and actions to take if experiencing these side effects
   5. Refill information (if authorized by prescriber)
   6. Written patient handout upon request

III. DOCUMENTATION

A. The following elements are documented in the electronic record and/or approved flow sheet:
   1. Medication history assessment information, as appropriate.
   2. Medication administered including:
      a. patient's name
      b. drug name, dose, concentration, and route
      c. date and time of administration
      d. rate of infusion, as indicated
      e. whether or not a medication was given and a rationale for not giving a prescribed medication
      f. a patient's response to a medication, if applicable

B. The additional following elements are recorded in the approved electronic record, as appropriate:
   1. When the electronic documentation system is not operating, the above elements are recorded on a Nursing Progress Note (Standard Form 510) or Outpatient Progress Note.
   2. Medication administration is not documented while a patient is on pass. On return from pass, a nurse will document the patient's self-report of self-administered medications and any adverse effects they experienced.
   3. When patients are discharged or released on pass with an ambulatory pump infusion, a nurse records the name of pump, serial number, status (discharge or pass), and date of issue and return.
   4. Patient/Family teaching provided is documented.

5. Blood-based products and vaccine immunizations
    a. Product's lot number
    b. Manufacturer's name
    c. Vaccine Information Statements including date of edition and date provided to a patient.
6. Medications Brought from Home
    a. Medications that patients surrender and are not used during the inpatient stay are documented in the medical record (electronically or manually).
    b. Medication administered from a patient's own supply is documented in the same manner that Clinical Center formulary medications are documented but adding that the dose was obtained from a patient's own supply.
    c. Documentation of controlled substances brought from home is accomplished in accordance with the NPCS PRO: Handling of Controlled Substances.
    d. Medications disposed of or returned to a patient at the time of discharge from the Clinical Center are documented in the electronic record.

IV. REFERENCES

A. MAS M94-15: Policy and Procedure for Patient Medications Brought into the Clinical Center upon Admission (2003).
B. MAS M87-6: Policy on Use of Investigational Drugs (FDA-approved IND) Brought into the Clinical Center by Patients for Therapeutic Use. (2003).
C. MAS M92-8: Intravenous Potassium Chloride Infusions (2003).
D. MAS M80-4: Suspected Adverse Drug Reaction Reporting (2003).
E. Pharmacy Controlled Substance Procedures (940.00), National Institutes of Health, Clinical Center, Pharmacy Department (1999).
F. PRO: Handling of Controlled Substances, National Institutes of Health, Clinical Center, Nursing and Patient Care Services (2003).
G. POL: Parenteral Admixtures, National Institutes of Health, Clinical Center, Nursing and Patient Care Services (2003).
H. Vaccine Information Statements (www.cdc.gov/nip/publications/vis)

Approved:

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Appendix A

Parenteral Products
Expiration Date Guidelines

A. **LABELING INFORMATION**
   1. EXPIRES: MM/DD @ TT:TT
   2. An auxiliary sticker (fluorescent background) is added for parenteral products with a short stability, i.e., less than 4-hour stability.

B. **DEFINITION**
   1. Expires: MM/DD/YY @ TT:TT designates the latest date/time that the preparation should be infusing into the patient.

C. **NURSING GUIDELINES**
   1. Unless expressly stated as part of the medical order, intravenous solutions should not hang for more than 24 hours
   2. Prior to starting infusion, a nurse will check to be sure there is ample time to complete the infusion.
   3. RN will call PHARMACY IMMEDIATELY to determine best course of action:
      a. If prior to the start of an infusion, it appears that drug administration cannot be completed by the labeled expiration date/time;
      b. If a bag is hung and infusing, and unexpected delays create a situation where the bag cannot be completed before its labeled expiration date/time;
      c. If an expiration date/time has passed and the parenteral product is still infusing. The nurse will not automatically discontinue the infusion. Depending on the situation, a call to the prescriber may also be needed;
      d. If nurse experiences unanticipated complications when initiating or completing a planned "short stability" infusion.

D. **CHANGES TO EXPIRATION DATE/TIME LABELING**
   1. Expiration dates can be updated via a phone call to pharmacy and the nurse notes the following on the current product label:
      a. new expiration date/time
      b. initials of the approving pharmacist
      c. date/time of change
      d. initials of nurse recording change in the product label
   2. Expiration dates can also be updated by returning the product to the Pharmacy. The approving pharmacist will note the new expiration date/time and their initials on the product label as well as the date of this action.